injection. The transverse process of the lumbar vertebræ must always answer for the ribs, but they are further apart than the ribs. Ten cubic centimeters of a 1.5 per cent. novocain-suprarenalin solution is injected. The operation should begin in about a quarter of an hour after the injection. In his first two kidney operations, Kappis injected from the ninth dorsal to the second lumbar vertebra on the affected side. Since the stripping off of the peritoneum was not completely painless, in the next operation, he injected also the seventh and eighth dorsal, but without a better result. With a proper injection, the skin, soft tissues, and kidneys with a large portion of the ureter, will be completely painless, but not so with the stripping of the peritoneum. For this reason he has on one occasion given 15 drops and on another occasion 30 drops of ether. The method is an important advance in kidney operations, especially when the kidney not operated on is diseased. It permits the avoidance of a psotoperative nephritis from the narcosis in the remaining kidney after a nephrectomy.

The Technique of Local Anesthesia in Thoracoplasty.—SCHUMACHER (*Zentralbl. f. Chir.*, 1912, xxxix, 252) says that Sauerbruch employed the following method in 35 cases of extensive rib resections: Small doses of morphine or of pantopton were given one hour before the operation. A 0.5 per cent. novocain solution with the addition of suprarenalin was employed, the solution being made freshly for each operation. According to the extent of the operation, from 10 to 200 c.c. were necessary. The line of the intended incision was first injected subcutaneously. From this anesthetic line the deeper tissues, chiefly the nerves, were injected. The needle was directed from below and inward, upward, and outward against the rib lying over the point of injection in the region of the angle of the rib. When the needle scraped the bone, 1 to 2 c.c. were injected. Then feeling for the lower border of the rib, 5 to 8 c.c. were deposited. At the costal angle the intercostal nerve passes from the middle of the intercostal space upward to the lower border of the rib above. The intercostal veins are already in the groove under the rib above. The injection is made for each rib to be resected. The first intercostal nerve under the first rib is injected successfully in thin patients, but less so in stout patients. For the axillary incision a large injection needle is passed as far as possible posteriorly along the convex border of the rib with continuous injection. In 20 out of the 35 operations, in which 4 to 8 ribs were resected, no chloroform was necessary. In the others a few drops were necessary to induce a partial, light narcosis. No accidents, such as penetration of large vessels, the pleura or lungs, were observed.

Parathyroids and Their Surgical Relation to Goitre.—MAYO and McGRATH (*Annals of Surgery*, lv, 185) say that numerous hypotheses, erroneous deductions, and illogical conclusions have been drawn in connection with the action of the parathyroids, but that there no longer seems to be substantial grounds for doubting the etiological relationship between them and one disease, namely, tetany. Experimental tetany has been produced in animals by the removal of parathyroid tissue, and experimental tetany may be reckoned, in a certain sense, tetany following operation upon the human thyroid gland.

Spontaneous tetany is caused by an hypoplasia with resultant insufficiency of the parathyroids. Pathological examinations seem to have proved that hemorrhages into the parathyroids have a positive significance in the causation of tetany, especially in childhood, and that these hemorrhages produce their effect by injuring the parathyroidal tissue, inhibiting its development and consequently decreasing its functional power. According to MacCallum and Ovegtlin all violent symptoms produced by parathyroidectomy—muscular twitching and rigidity, tachypnea, fibrillary tremors, increased rapidity of the heart beat, etc.—may be almost instantly cured by the intravenous injection of a solution of a calcium salt. The acetate or lactate in a 5 per cent. solution is usually employed. The condition of relief following the administration of these various salts lasts for perhaps twenty-four hours, when tetany may reappear. Analysis of the blood taken from a dog during tetany shows a calcium content which is only about half that of the normal dog on the same diet. Insufficiency of the parathyroids seems to be necessary for the production of tetany. Gastrointestinal disease may be a contributing factor by causing a hypofunction of the parathyroids, which is the most frequent form of tetany, especially in children. Remembering the variable size, location, and appearance of the parathyroids, the surgeon should preserve all, especially gland-like, masses about the capsule in cases of operation on the thyroid gland. If such a mass be accidentally removed in the course of operation, it should at once be implanted beneath some part of the remaining capsule. According to Vincent and Jolly, the parathyroids left behind after thyroidectomy can, under conditions, develop in the direction of thyroid tissue, and a functional replacement also can take place. The ideal treatment of tetany would be to compensate for the glandular deficiency by transplanting parathyroids from other individuals, feeding with animal glands, the use of serum or the extract of parathyroid tissue. Unfortunately, none of these procedures has given dependable results. No reliable treatment is at present known.

THERAPEUTICS

UNDER THE CHARGE OF

SAMUEL W. LAMBERT, M.D.,

PROFESSOR OF APPLIED THERAPEUTICS IN THE COLLEGE OF PHYSICIANS AND SURGEONS,
COLUMBIA UNIVERSITY, NEW YORK.

Transfusion of Blood for Typhoid Hemorrhage.—Booth (*Yale Med. Jour.*, 1912, xviii, 214) reports a severe case of typhoid that was complicated by hemorrhages. The use of the ordinary therapeutic procedures such as hypodermoclysis, injections of rabbit and human serum, and the administration of calcium lactate apparently had no marked benefit. The condition of the patient was so bad that transfusion of blood was done as a last resort. The effect of this was remark-